

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) An information processing apparatus configured to serve as a reproduction instruction apparatus configured to transmit a data reproduction process request to a node connected to a network and to execute a data reproduction process based on return data, the information processing apparatus comprising:

a data transmission setting unit configured to select one or more data transmission modes as a return data transmission mode, from a plurality of data transmission modes, and to determine a data transmission ~~ratio between~~ percentage of each of the selected one or more data transmission modes according to a demand level of reproduction object data;

a packet generating unit configured to set the reproduction object data and an address in accordance with ~~[[the]]~~ data transmission ~~ratio~~ percentages determined by the data transmission setting unit, and to generate a data reproduction process request packet storing designation data for the set reproduction object data as a request statement; and

a network interface unit configured to transmit the data reproduction process request packet generated by the packet generating unit.

2. (Currently Amended) The information processing apparatus according to claim 1, wherein the data transmission setting unit is configured to select the one or more data transmission modes in accordance with ~~[[a]]~~ the demand level of the reproduction object data.

3. (Previously Presented) The information processing apparatus according to claim 1, wherein the data transmission setting unit is configured to select the one or more data transmission modes from a carousel transmission mode, a chaining transmission mode, a distributed cache mode, or a client server mode.

4. (Currently Amended) The information processing apparatus according to claim 1, wherein the data transmission setting unit is configured to use a correspondence between [[a]] the demand level of the reproduction object data and [[a]] band ratio as ratios for determining the data transmission ratio between percentage of each of the selected one or more data transmission modes, and to select the one or more data transmission modes based upon demand level information of the reproduction object data in accordance with the correspondence.

5. (Currently Amended) The information processing apparatus according to claim 1, wherein the data transmission setting unit is configured to determine [[a]] the data transmission ratio percentage of each of the selected one or more data transmission modes in accordance with a value of a demand level  $x$  determined by demand information by adopting a function group

$$y = Dn(x) \text{ (where } \sum Dn(x) = 1 \text{)}$$

set by the demand level  $x$ , a band ~~ratio~~ percentage  $y$  for each of the selected one or more data transmission modes, and an identification value  $n$  of each of the data transmission modes, the demand information being related to the reproduction object data.

6. (Currently Amended) The information processing apparatus according to claim 1, wherein the data transmission setting unit is configured to select a carousel transmission mode as the return data transmission mode, when [[a]] the demand level of the reproduction object data is higher than a preset threshold value.

7. (Previously Presented) The information processing apparatus according to claim 1, further comprising:

a data recovery processing unit configured to execute a deinterleave process and an FEC decoding process for the reproduction object data, which is extracted from packets received from the node.

8. (Previously Presented) The information processing apparatus according to claim 1, further comprising:

a rule judgment condition setting unit configured to set judgment data for judging whether the node executes a process satisfying a process request, wherein

the packet generating unit is configured to generate the data reproduction process request packet, which stores the judgment data set by the rule judgment condition setting unit.

9. (Previously Presented) The information processing apparatus according to claim 8, wherein

the rule judgment condition setting unit is configured to set a probability value as a reproduction rule judgment condition statement for judging whether the node executes the process satisfying the process request, and

the packet generating unit is configured to generate a packet storing the probability value as the reproduction rule judgment condition statement.

10. (Previously Presented) The information processing apparatus according to claim 8, wherein

the reproduction object data stored at the node is encoded data at an encoding rate of  $q/p$  converted from a number of blocks  $p$  of divided data into a number of blocks  $q$  by FEC encoding, and

the rule judgment condition setting unit is configured to set a probability value  $\beta$  indicating that the node returns data at a return probability  $\beta$ , such that  $\beta$  is greater than  $p / (q \times \alpha \times n)$ , where (1)  $\alpha$  is a record probability designated by a record instruction apparatus connected to the network, (2)  $q$  is the number of encoded blocks  $q$ , (3)  $n$  is a number of network-connected nodes, and (4)  $p$  is the number of blocks  $p$ .

11. (Currently Amended) An information processing apparatus configured to serve as a demand information provider apparatus configured to provide demand level information of a plurality of transmission data over a network, the information processing apparatus comprising:

a communication unit configured to receive from a network-connected node a demand level information acquisition request corresponding to at least one of the transmission data; and

a control unit configured

to count a number of demand level information acquisition requests corresponding to each of the transmission data, the demand level information acquisition requests having been received via the communication unit,

to generate demand level information for each of the transmission data in accordance with the corresponding counted number,

to generate response information corresponding to the received demand level information acquisition request in accordance with the generated demand level information,

[[and]]

to transmit the response information to the network-connected node via the communication unit,

to execute transmission control of a carousel transmission process request for one of the transmission data that corresponds to a demand level equal to or larger than a threshold value, when the demand level based upon the counted number for the one of the transmission data becomes equal to or larger than a preset threshold value, wherein said carousel transmission process request is to be sent to a carousel transmission execution node, and

to include an identifier of the transmission data in the carousel transmission process request.

12. (Canceled).

13. (Currently Amended) The information processing apparatus according to claim [[12]] 11, wherein the control unit is configured to include ~~an identifier of carousel transmission execution object data and~~ carousel transmission destination address information set in accordance with transmission source node address information of the received demand level information acquisition request, in the carousel transmission process request.

14. (Currently Amended) An information processing method for a reproduction instruction apparatus for transmitting a data reproduction process request to a node connected to a network and executing a data reproduction process based on return data, comprising:  
selecting one or more data transmission modes as a return data transmission mode, from a plurality of data transmission modes;

determining a data transmission ~~ratio between~~ percentage of each of the selected one or more data transmission modes according to a demand level of reproduction object data;

setting the reproduction object data and an address in accordance with ~~[[the]]~~ data transmission ~~ratio~~ percentages determined in the determining step;

generating a data reproduction process request packet storing designation data for the set reproduction object data as a request statement; and

transmitting the packet generated by the generating step.

15. (Currently Amended) The information processing method according to claim 14, wherein the selecting step includes setting the one ~~[[of]]~~ or more data transmission modes in accordance with ~~[[a]]~~ the demand level of the reproduction object data.

16. (Previously Presented) The information processing method according to claim 14, wherein the selecting step includes selecting the one or more data transmission modes from a carousel transmission mode, a chaining transmission mode, a distributed cache mode, or a client server mode.

17. (Currently Amended) The information processing method according to claim 14, wherein the selecting step includes

selecting the one or more data transmission modes based upon demand level information of the reproduction object data, and

determining ~~[[a]]~~ the data transmission ~~ratio~~ percentage of each of the selected one or more data transmission modes, in accordance with a correspondence between ~~[[a]]~~ the demand level of the reproduction object data and ~~[[a]]~~ band ~~ratio~~ ratios, the correspondence

indicating the data transmission ~~ratio between~~ percentage of each of the selected one or more data transmission modes.

18. (Currently Amended) The information processing method according to claim 14, wherein the selecting step includes determining ~~[[a]] the data transmission ratio~~ percentage of each of the selected one or more data transmission modes in accordance with a value of a demand level  $x$  determined by demand information by adopting a function ~~group~~

$$y = D_n(x) \text{ (where } \sum D_n(x) = 1 \text{)}$$

set by the demand level  $x$ , a band ~~ratio~~ percentage  $y$  for each of the selected one or more data transmission modes, and an identification value  $n$  of each of the data transmission modes, the demand information being related to the reproduction object data.

19. (Currently Amended) The information processing method according to claim 14, wherein the selecting step includes selecting a carousel transmission mode as the return data transmission mode when ~~[[a]] the~~ demand level of the reproduction object data is higher than a preset threshold value.

20. (Previously Presented) The information processing method according to claim 14, further comprising:

executing a deinterleave process and an FEC decoding process for the reproduction object data, which is extracted from packets received from the node.

21. (Previously Presented) The information processing method according to claim 14, further comprising:

setting judgment data for judging whether the node executes a process satisfying a process request, wherein

the data reproduction process request packet includes the set judgment data.

22. (Currently Amended) The information processing method according to claim 21, wherein

the setting judgment data step includes setting a probability value as a reproduction rule judgment condition statement for judging whether the node executes the process satisfying the process request, and

the setting the reproduction object data step includes generating a packet storing the probability value as the reproduction rule judgment condition statement.

23. (Previously Presented) The information processing method according to claim 21, wherein

the reproduction object data stored at the node is encoded data at an encoding rate of  $q/p$  converted from a number of blocks  $p$  of divided data into a number of blocks  $q$  by FEC encoding, and

the setting judgment data step includes setting a probability value  $\beta$  indicating that the node returns data at a return probability  $\beta$ , such that  $\beta$  is greater than  $p / (q \times \alpha \times n)$ , where (1)  $\alpha$  is a record probability designated by a record instruction apparatus connected to the network, (2)  $q$  is the number of encoded blocks  $q$ , (3)  $n$  is a number of network-connected nodes, and (4)  $p$  is the number of blocks  $p$ .



24. (Currently Amended) An information processing method for a demand information provider apparatus configured to provide demand level information of a plurality of transmission data over a network, the method comprising:

receiving a demand level information acquisition request from a network-connected node via a communication unit, the demand level information acquisition request corresponding to at least one of the transmission data;

counting a number of demand level information acquisition requests corresponding to each of the transmission data, the demand level information acquisition requests having been received via the communication unit;

generating demand level information for each of the transmission data in accordance with the corresponding counted number;

generating a packet storing response information corresponding to the received demand level information acquisition request in accordance with the generated demand level information; [[and]]

transmitting the packet to the network-connected node;

executing transmission control of a carousel transmission process request for one of the transmission data that corresponds to a demand level equal to or larger than a threshold value, when the demand level based upon the counted number for the one of the transmission data becomes equal to or larger than a preset threshold value, wherein said carousel transmission process request is to be sent to a carousel transmission execution node; and  
storing an identifier of the transmission data in the carousel transmission process request.

25. (Canceled).

26. (Currently Amended) The information processing method according to claim  
[[25]] 24, further comprising:

storing ~~an identifier of carousel transmission execution object data and~~ carousel  
transmission destination address information set in accordance with transmission source node  
address information of the received demand level information acquisition request, in the  
carousel transmission process request.

27-28. (Canceled).

29. (Previously Presented) The information processing apparatus according to claim  
11, wherein the control unit is further configured to generate the response information which  
includes the demand level information.